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ABSTRACT

Research has suggested that both teacher expectations and student expectations can affect the individuals' own attitudes and behavior, as well as the behavior of those with whom they are interacting. The joint effects of teachers' expectations about students and students' expectations about teachers on the performance and attitudes of both participants was examined. Subjects were 120 female undergraduates. Half of the subjects were designated as teachers and were led to expect either a high- or low-ability student. The other half, acting as students, were led to expect a teacher of high or low competence. Teachers and students were randomly paired in an experimental teaching session. Results showed that student performance was a function of the teachers' expectation. Teachers' attitudes and rated competence were affected by their expectations regarding the student, and students' attitudes were affected by their expectations about the teacher. Results indicated that both teachers and students can concurrently hold expectations about their partner, and that such expectations affect their attitudes about themselves, the partner, and the entire teaching situation. (Author/NRB)

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Joint Effects of Teacher and Student Expectations

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The Teacher and Student as Pygmalions:
Joint Effects of Teacher and Student Expectations

Behavioral scientists have long suggested that merely expecting an event to occur sometimes can lead to an increased likelihood that the event will in fact happen. Expectations have been shown to affect not only one's own behavior (as in the medical literature on placebo effects), but affect the behavior of others (as in the literature on experimenter expectancy effects; Archibald, 1974).

There is perhaps no better example of situations in which holding expectations can bring about the expected behavior than teacher expectations about student performance. Since the publication of Rosenthal and Jacobson's Pygmalion in the Classroom (1968), there have been many demonstrations that the expectancies that a teacher holds regarding a student's ability can affect the performance of that student (Braun, 1976).

The theoretical explanation for the teacher expectation phenomenon that has received the greatest support holds that teachers who form an initial expectation about a student transmit their expectation to the student through the verbal (and nonverbal) cues that they emit. In support of such an explanation, Brophy and Good (1970) found that the nature of teacher's praise to high and low expectation students differed, and Rothbart, Dalfen, and Barrett (1971) found that teachers gave greater attention to students who they thought were bright.

Although the bulk of the research on expectancy effects has examined

teacher expectations about students, it is reasonable to assume that the student would also bring a set of expectations about the teacher to a teacher-student interaction. For instance, the large literature on student ratings of instructors shows that there is wide variation in how favorably particular teachers are viewed (Feldman, 1976). It is likely that such attitudes about teachers can be communicated to other students and subsequently affect both student and teacher behavior.

The most direct evidence that students who hold differential expectations about a teacher's competence can communicate those expectations and affect the teacher comes from a recent study by Feldman and Prohaska (1979). In one experiment, subjects acting as students were administered a lesson by a teacher (confederate) who the students were led to expect would be either effective or ineffective. Results showed significant differences in student attitudes, performance, and nonverbal behavior according to expectation. In a second experiment, confederates acting as students emitted either positive or negative nonverbal behavior (similar to behavior found to result from positive or negative expectations in the first experiment) toward subjects acting as their teachers. The results showed that there were significant effects on the teachers' attitudes and behaviors. Moreover, ratings of the teacher by judges showed that the teachers were rated as being more adequate under conditions of positive student nonverbal behavior than negative student nonverbal behavior. Thus, these experiments suggest that student expectations can be linked to changes both in the student's and the teacher's behavior, congruent with the expectations.

The research that has been previously cited clearly suggests that both

teacher expectations and student expectations can affect the individual's own attitudes and behavior, as well as the behavior of those with whom he or she is interacting. Yet, there has been only one study to our knowledge that examined teacher and student expectations simultaneously. Zanna, Sheras, Cooper, and Shaw (1975) conducted a field study in which they manipulated teachers' expectations about their students' ability (either positive- or no-expectation) and students' expectations about their own likely performance (positive- or no-expectations). Results showed that each positive expectancy by itself resulted in increased performance, but that the two positive expectations jointly did not. Although these results are informative, they do not directly pertain to the issue of joint expectations about a partner's behavior, since both sets of expectations in the study were in reference to expectations about the same person (the student). Moreover, the experiment focused only on student performance and investigated neither expectation effects on the teacher nor any attitudinal or other behavioral concommitants of expectations.

The present study examines directly the joint effects of each individual in a dyadic interaction holding expectations regarding their partner's competence. Subjects playing the role of teacher were led to expect that a student they were to teach was either likely to do well (positive expectation condition) or poorly (negative expectation) on a subsequent lesson. Independently, a subject playing the role of student was led to expect that their teacher was either likely to do well in teaching the lesson (positive expectation) or likely to do poorly (negative expectation). The two subjects then participated in the lesson. Measures of attitudes toward the lesson, their partner, and themselves, as well as student performance on a test of the lesson

content, were obtained. It was expected that the expectation held by teacher and student would jointly affect both partners' attitudes and performance.

Method

Subjects

Subjects were 144 female undergraduates enrolled in introductory psychology courses at a large state university. They volunteered to participate to earn extra class credit. Subjects were run in pairs, in which one was assigned the role of teacher and the other the role of student. To more closely approximate a status differential between teacher and student, teachers were juniors and seniors, while students were freshmen or sophomores.

Data from 3 subjects were not analyzed because of procedural errors or noncompletion of the dependent measure. Data from 12 pairs of subjects were not analyzed due to suspicion on the part of one or both members.

Procedure

The basic procedure involved placing subjects, designated as "teacher" and "student", in a short-term experimental teaching situation, after providing each partner with an expectation about the other's competence. After teaching the lesson, subjects' attitudes and test performance were assessed.

Manipulation of teachers' expectation about student. Upon arriving at the laboratory, subjects were taken to a room and told that the purpose of the study was to ascertain the differential effects of teaching strategies on high- versus low-ability student. They were told that they would be teaching a lesson using a standardized procedure, to students who has been prescreened according to standard achievement test scores and divided into high and low ability groups.

The subject was then randomly assigned to either the positive teachers' expectation condition or the negative teachers' expectation condition. In the positive teachers' expectation condition, subjects were told that "this week we're running high ability students", while the negative expectation condition subjects were informed that the student was in the low ability group. The subject was then given instructions for teaching the lesson and allowed time to rehearse.

Manipulation of students' expectation about teacher. The subject playing the role of student reported at a location and time different from that of the subject playing the teacher's role in order for them to avoid meeting prior to the experiment. The subject was met by an experimenter who was blind to the teacher expectation manipulation. This subject was told that the experiment was part of a joint psychology and education department project concerned with lesson development for student teachers at the university. The subject's role would be to act as a student and subsequently help evaluate both the lesson and the student teacher.

The manipulation of the student's expectation about the teacher was then carried out. In the positive student expectation condition subjects were told that they would be taught by one of a groups of "excellent student teachers" in an attempt to "further develop their outstanding abilities". In the negative expectation condition, subjects were told that they would be working with a student teacher from a group who were having an "extremely difficult time" in an attempt to improve their "poor teaching abilities".

After subjects indicated that they understood the purpose of the experiment, the experimenter left to get the "teacher". While leaving, the experi-

menter reiterated the manipulation, casually saying either, "as I said, the teacher is really excellent, so don't be nervous", or, "as I said, the teacher is really poor, but we're aware of that, so just bear with her."

Teacher-student interaction. The subjects playing teacher and student were then brought together by the two experimenters (each of whom was blind as to the manipulation carried out by the other). The experimenters left, and, following the instructions given to them, the teacher introduced herself by name and proceeded to teach the lesson to the student. During the session, each subject was videotaped by a hidden camera.

The lesson consisted of a strategy for effectively and efficiently learning a passage on prosocial behavior. The teacher defined the number of difficult words the student would encounter in the upcoming passage. Following this presentation, the student was given the lesson and administered a short multiple-choice test on its content by the teacher.

At the conclusion of the lesson session, subjects were taken to separate rooms by the experimenter who had initially presented the cover story. They were then administered questionnaires asking for confidential evaluations of the lesson, their partner, and their own affective attitudes. Subjects were then carefully debriefed. Those subjects who voiced suspicions about the procedure were eliminated from the data analysis. The ruse was then revealed to subjects, all of whom expressed understanding for the manipulations and the necessity for the use of deception.

Dependent Measures

Performance measures. One dependent measure consisted of the student's performance on the multiple choice test on the lesson content. The test,

which consisted of six items, was pretested and found to be a sensitive measure of the material. A measure of the teacher's performance was obtained by taking a 20-second videotaped sample from each teacher's performance while teaching the lesson to the student. Each sample was drawn from the same portion of the lesson. The samples were placed on a new videotape in a random order, and three untrained judges rated each of the samples using a seven-point Likert-type scale with endpoints labeled "competent" and "incompetent."

Attitudinal measures. Subjects were asked to evaluate the lesson, their partner's performance, and their own feelings about their performance on a series of seven-part Likert-type scales. There were separate questionnaires for subjects acting as teacher and student.

Manipulation check. Subjects were asked the nature of any expectation they had about their partner's competence prior to the actual lesson.

Method of analysis.

Data from the subjects acting as teachers and students were analyzed separately. The basic design of the study was a 2 (teachers' expectation about student) x 2 (students' expectation about teacher) between subjects factorial analysis of variance. Because of the large number of dependent measures relating to subjects' attitudes, multivariate analyses of variance were employed for the attitudinal scales. Separate multivariate analyses were carried out for (1) the student's ratings of their attitudes toward their teacher and the lesson, (2) student ratings of their attitudes about themselves, (3) teacher's ratings of their attitudes toward their student and the lesson, and (4) teacher ratings of their attitudes about themselves. Univariate tests will be discussed when they are related to a significant multivariate effect.

Results

Student Performance and Attitudes

Manipulation check. After the lesson, subjects acting as students were asked to rate the ability level they had expected their teacher to have before they had been taught. On a 2 x 2 analysis of variance, the only significant effect was for students' expectation, $F(1,54) = 23.42$, $p < .00001$. As would be expected, students had a higher expectation in the positive condition than in the negative students' expectation condition. Thus, the students' expectation manipulation was successful.

Performance measure. The analysis of variance revealed a main effect for teachers' expectations about student on the percentage of items correctly answered, although it was marginally significant, $F(1,54) = 3.42$, $p < .07$. Examination of the means showed that students performed better when the teacher had a positive expectation about their ability (67% correct) than when the teacher had a negative expectation about their ability (55% correct). The main effect for student expectation about teacher and the interaction were not significant. Therefore, regardless of whether the student held a positive or negative expectation about the teacher, the teachers' expectation was transmitted to the student and affected the students' performance.

Attitudinal measures: Students' rating of their teacher and the lesson. There was a significant multivariate effect for the factor of students' expectation about teacher, $F(\text{multivariate}) = 2.14$, $p < .05$. The multivariate tests for the main effect for teachers' expectation and the interaction were not significant. Examining the univariate main effects for students' expectation,

two significant univariate effects were obtained. Students rated the interestingness of the lesson as higher (M = 3.67) when they had a positive expectation than when they held a negative expectation (M = 2.82); $F(1,54)$ = 4.10, $p < .05$. They also rated the clarity of presentation higher when they held a positive expectation (M = 5.70) than when they held a negative expectation (M = 4.61); $F(1,54) = 7.24$, $p < .01$. These ratings demonstrate that both the content and presentation were rated differentially according to the expectations that the student held. (All means are presented in Table 1).

Insert Table 1 about here

Students' self-evaluations. Multivariate tests demonstrated a significant main effect for students' expectation, F(multivariate) = 3.53, $p < .006$, while the teachers' expectation factor and the interaction were not significant. Examination of the univariate main effects for students' expectation yielded results consistent with their ratings of the lesson. Students with positive expectations were more pleased with the teachers' performance in the teaching lesson (M = 4.90), than when they held a negative expectation (M = 3.46); $F(1,54) = 13.54$, $p < .0005$. They also expressed more interest in the lesson when they held a positive expectation (M = 3.67) than when they held a negative expectation (M = 2.39); $F(1,54) = 9.18$, $p < .0004$. Thus, students expressed more positive affect when led to hold a positive expectation than in the negative expectation condition.

Teacher Performance and Attitudes

Manipulation check. Following the lesson, teachers were asked to indicate how much ability they expected their student to have prior to the lesson.

Results showed that students were expected to have significantly greater ability in the positive expectation condition (M = 2.03 versus 4.62); $F(1,55)$ = 36.02, $p < .0001$. The data thus indicated that the manipulation was successful.

Performance competence measure. The ratings of the overall competence of the teacher were averaged across the three judges for each teacher, and those mean scores were entered into a 2(teachers' expectation) x 2(students' expectation) between subjects analysis of variance. The only significant effect was for teachers' expectation, $F(1,54) = 9.65$, $p < .003$. Examination of the means shows that teachers were rated as being more adequate when they held a positive expectation about their students (M = 4.40, where 1 = incompetent and 7 = competent) than when they held a positive expectation about their students (M = 3.61). Thus, simply being told that a student is likely to perform well or poorly is sufficient to result in differential teacher behavior. Moreover, such behavior occurs independently of student expectation about the teacher (given the lack of significant effect for the student expectation manipulation).

Attitudinal measures. None of the multivariate tests for the items relating to the teachers' attitudes about themselves reached significance. However, there was a main multivariate effect for teacher expectation for student on the items concerning the teacher's attitude toward the lesson and student, F(multivariate) = 2.45, $p < .03$. The main effect for student expectation and the interaction were not significant on the multivariate tests for this group of variables.

Examining the individual items encompassed within the significant multivariate effect for teacher expectation for student, there were two measures that showed significance on the univariate tests (Table 2). Teachers rated the lesson as being significantly more difficult when they thought the student

would do well (M = 3.43) than when they expected poor performance (M = 3.03);

Insert Table 2 about here

$F(1,55) = 6.09$, $p < .02$. Moreover, teachers in the positive expectation condition thought that students experienced more difficulty (M = 3.20) than in the negative expectation condition (M = 3.07); $F(1,55) = 8.52$, $p < .005$. Thus, teachers' perceptions of the content of the lesson and its difficulty differed according to expectation.

Given the significance of the main effect for teacher expectation on the measure of teacher competence and the multivariate main effect for teacher expectation on the group of dependent variables relating to teacher's attitude toward the lesson and student, it seemed that closer inspection of the variables relating to teacher's attitude toward self was warranted. Thus, the univariate tests for the teacher expectation main effect for the attitudes toward self variables were examined. Table 2 shows that there were significant effects for teacher's ratings of their own competence, happiness, pleasure about their performance, and interest in the session. In each case their attitudes were more positive when they expected good performance from their student than when they expected poor performance from their student.

In sum, the major finding from the teacher attitudinal ratings was that the expectation the teachers held about their student was the primary determinant of their attitudes. The results of the teacher ratings are thus the converse of those of the student ratings, where it was the student's expectation about the teacher that was the determinant of the student's attitudes.

Discussion

This study addressed the issue of how teacher and student expectations jointly affect the attitudes and performance of participants in a teaching situation. Support was found for the notion that both the expectations of the teacher and student do have an effect upon the outcome and feelings of success of both partners in the dyad.

Turning first to the results relating to the student, it appears that the typical finding regarding teacher expectations was confirmed: teacher's expectations about the competence of the student had an effect upon their student's performance (although the strength of the effect was weak). However, this was the only area in which the teacher's expectation affected the student. The students' attitudes about themselves, the lesson and the teacher were not affected by the teacher's expectation.

The students were, however, affected by their own expectation about the teacher. When they expected that the teacher was very competent, the students viewed the teacher and the lesson more positively. The fact that there is no effect for the teacher's expectation on the student attitudinal ratings suggests that the locus of the student expectation effect on the attitude measures resides in the student, and not in something that the teacher did. Such a finding is congruent with previous research, in which students who expect a poor teacher tend to hold less favorable attitudes and even act less positively to a teacher than when they expect a competent teacher (Feldman and Prohaska, 1979).

The results of the ratings of the teachers present an interesting parallel to those of the students. The teacher responses were affected by the expectation they held about their partner: Generally, their attitudes were more favorable when they held positive expectations than when they held negative expectations. Thus, both the teacher and the students were affected similarly by their respective expectancy manipulation. They both developed attitudes that were congruent with the expectation.

Moreover, the teachers' behavior was clearly affected by the expectations that they held about their student. Even in a short, 20-second sample of their teaching performance, untrained observers discerned a difference in how competent their teaching appeared. It is likely that such differences in teacher behavior were the cause of the poorer student performance.

Although the data reveal that teacher expectations about the student were transmitted to the student, resulting in differential student performance, the results do not indicate that student expectations about the teacher were transmitted to the teacher. None of the outcome measures for teachers showed any effect for students' expectation. However, despite the present findings, there is no reason to believe on a theoretical level that the communication of expectations should be unidirectional (from teacher to student, but not from student to teacher). Rather, it seems reasonable theoretically that both partners' expectations could be transmitted to the partner.

One explanation for this lack of communication of student expectations to the teacher may lie in the status differential between partners. The teachers may simply have attended less to the behavior of their student. Alternatively, the students may have been more motivated to avoid acting upon their expectations

than were the higher-status teachers. Another explanation may be methodological: subjects acting as students may have been less receptive to the expectation manipulation than the subjects acting as teachers, given that it is probably more plausible to give teachers information about students than to give students expectations about teachers. This latter explanation seems less viable, however, in view of the effects of students' expectations on student attitudes.

We should mention the limitations of the present study. The teacher lesson was a one-time, relatively short, interaction, and it may not be representative of long-term teacher-student relationships. Even more important is the loss of experimental control and precision that exists when both partners in a dyadic setting are naive subjects. Because we could not standardize the behavior of either partner as well as if one of the partners were a confederate, there are potential problems in the interpretation of the data and in determining the locus of causality for particular findings. Still, we would argue that the present design more nearly approximates actual teaching sessions, in which both partners bring their own expectations to what is clearly a social situation, than experiments in which only the teacher's or student's expectations are examined.

To summarize, the present results clearly indicate that both teachers and students can concurrently hold expectations about their partner, and that such expectations affect their attitudes about themselves, the partner, and the entire teaching situation. Moreover, there is evidence (at least regarding teacher expectations) that such expectations can be transmitted to one's partner, independent of the partner's expectation. It is thus clear that teacher-student interaction is a complicated phenomenon, with both parties

acting as pygmalions in the classroom. Future research on classroom interaction must take into account this complexity in order to fully understand the nature of teacher-student relationships.

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Table 1

Means Relating to Expectation about Teacher

Variable	Positive Expectation	Negative Expectation	F	P
Student attitudes toward lesson and teacher				
Difficulty of lesson	3.90	3.46	1.28	.26
Interestingness of lesson	3.67	2.82	4.10	.05
Clarity of presentation	5.70	4.61	7.24	.01
Adequacy of coverage	4.73	4.21	1.73	.19
Teacher's knowledge of content	4.04	3.68	.99	.32
Teacher's enthusiasm	4.47	3.86	1.88	.18
General impression of teacher	5.40	4.71	3.05	.09
Multivariate test			2.14	.06
Student attitudes about self				
Effort expended	4.97	4.50	1.66	.20
Effectiveness as a student	4.37	4.43	.26	.61
Happiness	4.33	4.07	.39	.54
Pleasure with own performance	3.77	3.57	.19	.66
Pleasure over teacher's performance	4.90	3.46	13.54	.0005
Interest	3.67	2.39	9.18	.004
Multivariate test			3.53	.006

Note: Higher values indicate stronger or more positive responses on 7-point scales for attitudinal measures. N = 30 for positive expectation; N = 28 for negative expectation.

Table 2

Means Relating to Expectations about Student

Variable	Positive Expectation	Negative Expectation	F	P
Ratings of performance competence of teachers	4.40	3.61	9.65	.003
Teacher Attitudes toward lesson and student				
Difficulty of lesson	3.43	3.03	6.09	.02
How much interest did student show	4.33	4.21	1.31	.26
Difficulty experienced by student	3.20	3.07	8.52	.005
Intelligence of student's questions	3.07	2.93	1.52	.22
How much did student learn	4.07	3.73	.31	.58
Estimate student's intelligence	5.20	4.79	.82	.37
General impression of student	5.97	5.55	.00	.98
Multivariate test			2.45	.03
Teacher Attitudes about self				
Effectiveness	4.67	4.00	3.04	.09
Competent	4.97	3.97	5.31	.03
Happiness	5.43	4.52	5.39	.02
Pleasure over performance	5.03	3.97	6.19	.02
Pleasure over student's performance	5.67	5.31	.92	.34
Interest	4.77	3.79	4.24	.04
Multivariate test			1.50	.20
Student Performance Measure	67%	55%	3.42	.07

Note: Higher values indicate stronger or more positive responses on 7-point scales for attitudinal measures. N = 30 for positive condition, N = 29 for negative condition.